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January 28, 2005

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Re: Applicant(s): Jonathan J. Wierer, Jr., Michael R. Krames, John E. Epler
Assignee: Lumileds Lighting, U.S., LLC
Title: Photonic Crystal Light Emitting Device
Serial No.: 10/804,810
Examiner: Not yet known Filed: March 19, 2004
Docket No.: LUM-03-05-01 Group Art Unit: 2879

Dear Sir:


Transmitted herewith are the following documents in the above-identified application:

- (1) Return Receipt Postcard;
- (2) This Transmittal Letter (1 page);
- (3) Information Disclosure Statement (1 page);
- (4) Forms PTO/SB/08A and PTO/SB/08B (3 pages);
- (5) Seventeen (17) cited references;
- (6) Copies of the cited US Patent documents are not enclosed as the requirement under 37 CFR 1.98 (a)(2)(i) is waived.


- ☒ No additional fee is required.
☐ The fee has been calculated as shown below:

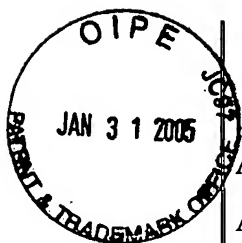
<input checked="" type="checkbox"/> Conditional Petition for Extension of Time: If an extension of time is required for timely filing of the enclosed document(s) after all papers filed with this transmittal have been considered, an extension of time is hereby requested.	
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 502226.	
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 1/28/05
Attorney for Applicant(s) Date

Respectfully submitted,


Rachel V. Leiterman
Attorney for Applicant(s)
Reg. No. 46,868



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Jonathan J. Wierer, Jr., Michael R. Krames, John E. Epler
Assignee: Lumileds Lighting U.S., LLC
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San Jose, California
January 28, 2005

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR § 1.97(b)**

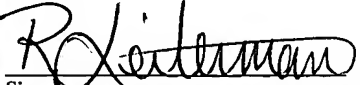
Dear Sir:

Pursuant to 37 C.F.R. § 1.56, § 1.97 and § 1.98, the documents listed on the accompanying forms PTO/SB/08A and PTO/SB/08B are called to the attention of the Examiner for the above patent application. A copy of the cited patent application is enclosed. Copies of the cited US Patent documents are not enclosed as the requirement under 37 CFR 1.98 (a)(2)(i) is waived.

Citation of these documents shall not be construed as:

1. an admission that the documents are necessarily prior art with respect to the instant invention;
2. a representation that a search has been made; or
3. an admission that the information cited herein is, or is considered to be, material to patentability as defined in § 1.56(b).

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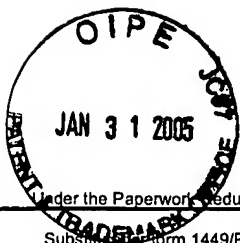

Signature Date 1/28/05

Respectfully submitted,



Rachel V. Leiterman
Attorney for Applicant(s)
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PTO/SB/08A (08-03)

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Substitute for Form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

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of

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Complete if Known

Application Number	10/804,810
Filing Date	March 19, 2004
First Named Inventor	Jonathan J. Wierer Jr.
Art Unit	2879
Examiner Name	Not yet known
Attorney Docket Number	LUM-03-05-01

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 5,779,924	7-14-1998	Krames et al.	
		US- 2004/0016936 A1	1-29-2004	Tanaka et al.	
		US- 2003/0141507 A1	7-31-2003	Krames et al.	
		US- 6,307,218 B1	10-23-01	Steigerwald et al.	
		US- 6,363,096	3-26-2002	Dodabalapur et al.	
		US- 6,335,548	1-1-2002	Roberts et al.	
		US- 6,156,581	12-5-2000	Vaudo et al.	
		US- 5,955,749	9-21-1999	Joannopoulos et al.	
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FOREIGN PATENT DOCUMENTS

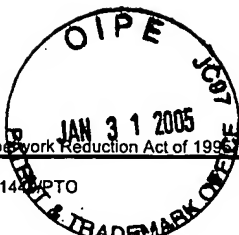
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
		JP 07176788	7-1995	Kurahashi		

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SignatureDate
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Sheet 2 of 3

NON PATENT LITERATURE DOCUMENTS

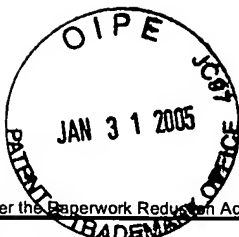
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		J.J. WIERER et al., "InGaN/GaN quantum-well heterostructure light-emitting diodes employing photonic crystal structures," Applied Physics Letters, Vol. 84, No. 19, May 10, 2004, pp. 3885-3887.	
		US Patent Application Serial No. 10/804,810, filed March 19, 2004 entitled "Photonic Crystal Light Emitting Device," 28 pages.	
		LEE et al., "Modified spontaneous emission from a two-dimensional photonic bandgap crystal slab," J. Opt. Soc. Am. B, Vol. 17, No. 8, August 2000, pp. 1438-1442.	
		BORODITSKY et al., "Surface recombination measurements on III-V candidate materials for nanostructure light-emitting diodes," Journal of Applied Physics, Vol. 87, No. 7, April 1, 2000, pp. 3497-3504.	
		BORODITSKY et al., "Light extraction from optically pumped light-emitting diode by thin-slab photonic crystals," Applied Physics Letters, Vol. 75, No. 8, August 23, 1999, pp. 1036-1038.	
		WINDISCH et al., "Light-emitting diodes with 31% external quantum efficiency by outcoupling of lateral waveguide modes," Applied Physics Letters, Vol. 74, NO. 16, April 19, 1999, pp. 2256-2258.	
		XU et al., "Finite-difference time-domain calculation of spontaneous emission lifetime in a microcavity," J. Opt. Soc. Am. B, Vol. 16, No. 3, March, 1999, pp. 465-474.	
		HWANG et al., "Spontaneous emission rate of an electric dipole in a general microcavity," Physical Review B, Vol. 60, No. 7, August 15, 1999, pp. 4688-4695.	
		FAN et al., "High Extraction Efficiency of Spontaneous Emission from Slabs of Photonic Crystals," Physical Review Letters, Vol. 78, No. 17, April 28, 1997, pp. 3294-3297.	
		Vuckovic et al., "Surface Plasmon Enhanced Light Emitting Diode," Journal of Quantum Electronics, Vol. 36, 2000, pp. 1-13.	

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Attorney Docket Number	LUM-03-05-01

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Tredicucci et al., "Single-mode surface-plasmon laser," Applied Physics Letters, Vol. 76, No. 16, April 17, 2000, pp. 2164-2166.	
		Imada et al., "Coherent two-dimensional lasing action in surface-emitting laser with triangular-lattice photonic crystal structure," Applied Physics Letters, Vol. 75, No. 3, July 19, 1999, pp. 316-318.	
		Pottage et al., "Vertical-cavity surface-emitting resonances in photonic crystal films," J. Opt. Soc. Am. A, Vol. 18, No. 2, February 2001, pp. 442-447.	
		TIWARI, S., "Compound Semiconductor Device Physics," Academic Press, Inc., San Diego, CA, 1992, pp. 182-186.	
		G.B. STRINGFELLOW and M. GEORGE CRAWFORD, eds., "High Brightness Light Emitting Diodes," Academic Press, Inc., 1997, Chapter 5, "AlGaInP Light-Emitting Diodes," by F.A. KISH and R.M. FLETCHER, pp. 149-170.	
		US Patent Application Serial No. 10/691,026, filed October 21, 2003, entitled "Photonic Crystal Light Emitting Device," 30 pages.	

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